

WHAT IS CLAIMED IS:

1 1. A method for updating code in a nodal system including at least two
2 nodes, wherein each node includes a processing unit and a memory including code, and
3 wherein the nodes communicate over a communication interface, comprising:
4 transmitting, with at least one querying node, a request to at least one queried
5 node in the nodal system for a level of the code at the node over the communication
6 interface;
7 receiving, with one node, a response from the queried node receiving the request
8 indicating the level of code at the queried node over the communication interface; and
9 determining, with the node receiving the response, whether at least one queried
10 node has a higher code level.

1 2. The method of claim 1, further comprising:
2 retrieving, with the node receiving the response, a copy of the code at the higher
3 code level queried node if one queried node has the determined higher code level; and
4 updating, with the node retrieving the copy of the code, the memory with the
5 retrieved copy of the code at the higher code level from the queried node.

1 3. The method of claim 1, wherein the node receiving the response from the
2 queried node and determining whether the queried node has the higher code level
3 comprises the querying node or a node that did not transmit the request to the queried
4 node.

1 4. The method of claim 2, further comprising:
2 broadcasting, with the queried node having the highest code level, the code to
3 multiple nodes over the communication interface, wherein the nodes retrieve the copy of
4 the code by reading the broadcast of the code on the communication interface.

1 5. The method of claim 1, wherein determining whether one queried node
2 has a higher code level is performed each time the nodal system is reset or the querying
3 node is reset independently.

1 6. The method of claim 1, wherein multiple querying nodes transmit the
2 request for the code level to one queried node, and wherein the queried node broadcasts
3 information on the code level to the nodes.

1 7. The method of claim 1, wherein the queried node serially broadcasts the
2 code level information to the nodes.

1 8 The method of claim 1, wherein all nodes in the nodal system transmit the
2 request to the at least one queried nodes and determine whether the queried nodes have
3 the higher code level.

1 9. The method of claim 1, wherein each node has the same code set, wherein
2 a portion of the code includes instructions used by all the nodes in the system and
3 wherein the code includes instructions for functions used exclusively by each of the
4 nodes.

1 10. The method of claim 1, wherein a first node is capable of controlling an
2 accessor in a storage library system to access storage cartridges and wherein a second
3 node is capable of interfacing with a host system and communicating commands from the
4 host system to the first node to execute.

1 11. The method of claim 1, wherein the at least one querying node executes a
2 routine to transmit the requests to the at least one queried node, receive the response from
3 the at least one queried node, and determine whether the at least one queried node has a

4 higher code level than a code level indicated in a parameter in the memory, wherein the
5 parameter is initially set to the code level of the querying node.

1 12. The method of claim 1, wherein the nodes further perform:
2 maintaining a parameter indicating the code level at the node;
3 initializing the parameter with the code level at the querying node before
4 transmitting the requests for the code level at the other nodes; and
5 updating the parameter with the code level at the queried nodes if the queried
6 nodes have the higher code level.

1 13. A system for updating code in a nodal system, comprising:
2 at least two nodes, wherein each node includes a processing unit and a memory
3 including code;
4 a communication interface, wherein the nodes communicate over the
5 communication interface;
6 program logic in a computer readable medium for causing the node processing
7 units to perform:
8 (i) transmitting a request to at least one queried node in the nodal system
9 for a level of the code at the node over the communication interface;
10 (ii) receiving a response from the queried node receiving the request
11 indicating the level of code at the queried node over the communication interface;
12 and
13 (ii) determining whether at least one queried node has a higher code level.

1 14. The system of claim 13, wherein the program logic is further capable of
2 causing the node processing units that receive the response from the queried node to
3 perform:

4 retrieving a copy of the code at the higher code level queried node if one queried
5 node has the determined higher code level; and
6 updating the memory with the retrieved copy of the code at the higher code level
7 from the queried node.

1 15. The system of claim 13, wherein the node receiving the response from the
2 queried node and determining whether the queried node has the higher code level
3 comprises the querying node or a node that did not transmit the request to the queried
4 node.

1 16. The system of claim 14, wherein the program logic is further capable of
2 causing the queried node processing units to perform:
3 broadcasting, with the queried node having the highest code level, the code to
4 multiple nodes over the communication interface, wherein the nodes retrieve the copy of
5 the code by reading the broadcast of the code on the communication interface.

1 17. The system of claim 13, wherein determining whether one queried node
2 has a higher code level is performed each time the nodal system is reset or the querying
3 node is reset independently.

1 18. The system of claim, wherein multiple querying nodes transmit the request
2 for the code level to one queried node, and wherein the queried node broadcasts
3 information on the code level to the nodes.

1 19. The system of claim 13, wherein the program logic is further capable of
2 causing the queried node processing units to perform serially broadcasts the code level
3 information to the nodes.

1 24. The system of claim 13, wherein the program logic is further capable of
2 causing the node processing units to perform:
3 maintaining a parameter indicating the code level at the node;
4 initializing the parameter with the code level at the querying node before
5 transmitting the requests for the code level at the other nodes; and

6 updating the parameter with the code level at the queried nodes if the queried
7 nodes have the higher code level.

1 25. An article of manufacture for updating code in a nodal system including at
2 least two nodes, wherein each node includes a processing unit and a memory including
3 code, wherein the nodes communicate over a communication interface, and wherein the
4 article of manufacture comprises code in a computer readable medium capable of causing
5 the node processing units to perform:

6 transmitting, with at least one querying node, a request to at least one queried
7 node in the nodal system for a level of the code at the node over the communication
8 interface;

9 receiving, with one node, a response from the queried node receiving the request
10 indicating the level of code at the queried node over the communication interface; and

11 determining, with the node receiving the response, whether at least one queried
12 node has a higher code level.

1 26. The article of manufacture of claim 25, wherein the article of manufacture
2 code is further capable of causing the node processing units to perform:

3 retrieving, with the node receiving the response, a copy of the code at the higher
4 code level queried node if one queried node has the determined higher code level; and

5 updating, with the node retrieving the copy of the code, the memory with the
6 retrieved copy of the code at the higher code level from the queried node.

1 27. The article of manufacture of claim 25, wherein the node receiving the
2 response from the queried node and determining whether the queried node has the higher
3 code level comprises the querying node or a node that did not transmit the request to the
4 queried node.

1 28. The article of manufacture of claim 26, wherein the article of manufacture
2 code is further capable of causing the node processing units to perform:

3 broadcasting, with the queried node having the highest code level, the code to
4 multiple nodes over the communication interface, wherein the nodes retrieve the copy of
5 the code by reading the broadcast of the code on the communication interface.

1 29. The article of manufacture of claim 25, wherein determining whether one
2 queried node has a higher code level is performed each time the nodal system is reset or
3 the querying node is reset independently.

1 30. The article of manufacture of claim 25, wherein multiple querying nodes
2 transmit the request for the code level to one queried node, and wherein the queried node
3 broadcasts information on the code level to the nodes.

1 31. The article of manufacture of claim 25, wherein the article of manufacture
2 code is further capable of causing the queried node serially broadcasts the code level
3 information to the nodes.

1 32 The article of manufacture of claim 25, wherein the article of manufacture
2 code is further capable of causing all nodes in the nodal system to transmit the request to
3 the at least one queried nodes and determine whether the queried nodes have the higher
4 code level.

1 33. The article of manufacture of claim 25, wherein each node has the same
2 code set, wherein a portion of the code includes instructions used by all the nodes in the
3 system and wherein the code includes instructions for functions used exclusively by each
4 of the nodes.

1 34. The article of manufacture of claim 25, wherein a first node is capable of
2 controlling an accessor in a storage library system to access storage cartridges and
3 wherein a second node is capable of interfacing with a host system and communicating
4 commands from the host system to the first node to execute.

1 35. The article of manufacture of claim 25, wherein the article of manufacture
2 code is further capable of causing the querying node to execute a routine to transmit the
3 requests to the at least one queried node, receive the response from the at least one
4 queried node, and determine whether the at least one queried node has a higher code level
5 than a code level indicated in a parameter in the memory, wherein the parameter is
6 initially set to the code level of the querying node.

1 36. The article of manufacture of claim 25, wherein the article of manufacture
2 code is further capable of causing the nodes to perform:
3 maintaining a parameter indicating the code level at the node;
4 initializing the parameter with the code level at the querying node before
5 transmitting the requests for the code level at the other nodes; and
6 updating the parameter with the code level at the queried nodes if the queried
7 nodes have the higher code level.

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